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**TO TRANSFORM INTO A MORE CAPABLE INTELLIGENCE COMMUNITY:
A PARADIGM SHIFT IN THE ANALYST SELECTION STRATEGY**

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TO TRANSFORM INTO A MORE CAPABLE INTELLIGENCE COMMUNITY: A PARADIGM SHIFT IN THE ANALYST SELECTION STRATEGY

Summary

Transnational security threats such as terrorism and proliferation of weapons of mass destruction bring out the challenging nature of intelligence analysis. We need people who can thrive in an analytical environment characterized by uncertainty, incompleteness and surprise. These are capabilities more innate than learned. Yet the entry process into the all-source analysis profession does not screen for people with these abilities. We need to improve our analytical work force. To do this, we need a systematic abilities-based pre-employment screening program for intelligence analysts.

This paper provides a functional justification for a screening program. Such a proposal represents a paradigm shift from the conventional way of recruitment largely based on a resume and an interview. The form, content, costs or time to develop an actual program is beyond the scope of this paper. However, an implementation plan and strategy for measuring its effectiveness are proposed. The potential benefits of such a screening effort include a higher concentration of analytical focus on difficult intelligence problems, a greater chance for success in "connecting the dots," a model to be used by military and law enforcement analytical efforts, and, most importantly, a smaller, more powerful analytical work force.

Framing the Issue: Capabilities-Based Strategy

Soon after the terrorist attacks of 11 September 2001, the Defense Department published its Quadrennial Defense Review (QDR). The QDR embodied a new strategy intended to minimize the destructive impact of strategic surprise.¹ The main thesis of the

strategy is to shift defense planning from a threat-based to a capabilities-based model.²

Expressed differently, the intent of the strategy is to shift planning away from framing conflict by the character of war – the who, where and why – to framing conflict by the conduct of war – the how.³ The shift in strategy is an attempt to reduce the risk of uncertainty and surprise.

The implications for intelligence cannot be understated. The intelligence community played the key role when war planning was framed from a threat perspective. It identified the priorities for operational and strategic planning and placed responsibility for mission success on the operational forces. Switching to a capabilities perspective means operational forces play the key role in identifying resource priorities for planning. Consequently a much greater responsibility for mission success now lies with the intelligence community who has to quickly identify the who, what and where. With a threat-based model, intelligence can operate more independently. However, in a capabilities-based model, it must operate “continuously” and in “high-speed” because dependency on intelligence is required.

Setting the Context: Analytical Challenges of Counterterrorism

In the aftermath of the terrorist attacks of 11 September 2001, Congress asked why the intelligence community failed to warn the nation of this attack. The post-mortem of 11 September did not discover any new problem with the intelligence analyst; it just revealed existing problems in a very public way.⁴ Congress concluded analysts were not able to “connect the dots” and they identified a number of organizational and resource reasons largely responsible.⁵ While these reasons contributed to the failure in understanding the threat environment, the thesis of this paper is there exists a more fundamental reason for failing to “connect the dots.”

There are at least two fundamental reasons for failing to “connect the dots.” First, the classical intelligence challenge is “noise.” By “noise,” we mean the bulk of information available to the analyst not appearing useful.⁶ As we shall see below, knowing what is “useful” is not necessarily obvious or unambiguous. Each analyst factors his or her own innate biases into the assessment of what is useful. Additionally, the residual, what is useful, may be “long on details but short on intent.”⁷ As a result, the analyst must therefore interpret sparse and seemingly unrelated data sets. Second, the analyst must interpret the “noise” to recognize patterns, a task whose success may largely be influenced by the innate quality of intuition.⁸ Improvements, therefore, need to capitalize on innate qualities.

Relying on the Wrong Model to Fix the Status Quo

Too much attention has been paid to external fixes and not enough to internal ones. It is the internal ones that are the most important to fix. President George W. Bush stated, “Our security will require the best intelligence...”⁹ However, focusing on making improvements to the “analyst” is especially challenging since the reasons for analytical failures often uncovered in post-mortems are caused by organizational relationships, structural limitations or technological shortfalls. In light of these findings, public policy analysis must assume the problems exist external to the “analyst.” Public debate, therefore, has missed the opportunity to evaluate this “inner sanctum” of the intelligence analysis business, which is why it has become the forgotten transformation.

Senator Richard Shelby, as Vice Chairman, Senate Select Committee on Intelligence, during the 107th Congress, identified organizational, structural and technological problems faced by the analytical community. His observations were made in the Joint Intelligence Committee’s investigation into the reform of the Intelligence Community following the 11

September terrorist attacks. He cited problems in information-sharing, intelligence-law enforcement coordination, counterintelligence-counterterrorism coordination, human intelligence, and technology support for data mining.¹⁰

Since virtually every aspect of the analyst's external environment has been discussed, why have we not put the analyst's "internal" environment "under the microscope?" The reason is relatively straightforward. Not only do we not have a baseline from which to compare analyst's performance but we also do not have an agreed upon set of capabilities by which to measure. By not identifying these, there are a number of consequences: we do not really understand the capability set of whom we are hiring from a corporate perspective; we cannot effectively determine if an analyst is doing the right job since we do not have a consensus expectation of capabilities; and we then are quite limited in making use of corrective or career development actions against analysts since objective standards are not in place. A desired outcome is to define the innate capabilities.

The Community's Dilemma: Defining a Capability Set

When we think about the all-source analyst, it is usually in terms of things they do and the knowledge they possess. Analysts identify a problem, find information about it, think about the information, reach a conclusion and then write a report addressing the problem for a policy-maker or decision-maker. And there are training and educational programs that target these tasks and improve their knowledge of facts. However, if we think about the analyst in terms of *how they think* – which is the fundamental "crown jewels" of analytical work – then we immediately must acknowledge its importance over *what they know*.

The National Security Agency has made some progress in identifying the basic traits needed by the intelligence analyst and separates these into characteristics, abilities, skills, and

knowledge.¹¹ The first two are the more innate capabilities of an individual. NSA's characteristics include curiosity, self-motivation, excited by ideas, a keen observer, a reader, capable of using multiple perspectives, creativity, playfulness, a sense of wonder, can intensely concentrate and questions convention. Abilities include pattern recognition and reasoning. The remaining two are skills learned through education or training.

Academic, business and other researchers, however, have applied a more rigorous approach to identify capabilities for intelligence analysts. Heuer, a psychological researcher, states we are not conscious of unconscious variables – like perception, memory and information processing – which introduce biases into the thinking process.¹² The implications for Heuer's premise is dramatic: not only must the intelligence analyst deal with uncertainty in the external world but, to a large degree, uncertainty also exists within the analyst's internal world – the thought process. Heuer concludes cognitive biases – making errors – even if one is aware of them, cannot be easily overcome nor produce a more accurate perception.¹³ Heuer's observation frames the community's dilemma: we hope to hire the best analyst, but have no effective way to understand their deep-down capability. We hope training and experience will compensate.

How the analyst perceives the world is a very important consideration in determining the accuracy of understanding the world.¹⁴ Heuer believes the most important perceptual bias is *we tend to perceive what we expect to perceive*.¹⁵ These expectations operate subconsciously and tell the analyst what to look for, what is important and how to interpret what they see. They form patterns which Heuer calls "mind-sets," that predispose the analyst to think in certain ways. Once you have a mind-set, you filter the world, and, more importantly, mind-sets become self-reinforcing and become difficult to break. As a

consequence, new information supports old ideas, and identifying small changes leading to new conclusions becomes very difficult.¹⁶

Clarkson, a researcher in integration of intelligence and technology, sought to identify obstacles to analytical thinking and grouped these into two categories: conceptual and cognitive obstacles.¹⁷ Clarkson's conceptual obstacles may be overcome or minimized through education and training. The analyst has limited information and therefore the representation of the world based on that data is limited. The analyst may not know how to interpret information for which there is no historical context. The analyst may not be able to recognize differences between data if they are similar. Finally, the analyst will be tempted to impose a pattern or model of activity for which many variations in the real world exist.

Clarkson's cognitive obstacles are more innate. Analysts tend to work with narrow hypotheses restricting their perspective. The downside of this limitation is reliance more on hope than on analytical prowess. A related obstacle is the over-reliance on the use of a hypothesis to explain data. It prevents the analyst from seeing a new cause. The limits of this obstacle are a dependency on one interpretation. Analysts may place too much importance on what they know about a person or situation when the context of the situation may be the driving factor. The problem with this limit is the analyst will misinterpret the evolving situation. Analysts tend to set low thresholds for acceptance of information. They confirm their existing assumptions while setting high thresholds of acceptance when the information does not fit their assumptions. The downside is conclusions tend to be reinforced arbitrarily instead of being supported by data. Finally, analysts tend to work with little variation in or no techniques of analysis. Without a strategy, the analyst cannot effectively attack the data.

Heuer's psychological research has shown three types of cognitive biases exhibited by intelligence analysts: evaluation of evidence, perception of cause and effect, and estimation of probabilities.¹⁸ First, Heuer identifies several kinds of biases in the evaluation of evidence. People tend to believe information if it is more personal, concrete and visual than if it were abstract. The negative side effect of this bias is twofold: analysts give more weight to anecdotal and personal observations, and analysts tend to distrust statistical data. Analysts may not be able to recognize missing evidence they need to confirm a situation, nor factor this into their analysis. As a result, the analyst may not be able to judge the impact of the missing data nor accurately estimate their confidence. The worst case is the analyst may not know that under certain circumstances missing data, itself, may be more important than data they possess. Analysts sometimes overly rely on consistency as a check for evaluating evidence. The negative effect of this bias is the analyst may place too much emphasis on consistent yet small samples of data resulting in false conclusions. Finally, analysts tend to encounter data of various degrees of certainty by either accepting or rejecting it. If the data are accepted, then the judgment becomes certain. If the data are rejected, the judgment becomes certain. The negative effect of this bias is uncertain data are not factored into the analysis because of the risk of failure in considering a lower than perfect confidence.

Second, Heuer identifies a number of biases in the perception of cause and effect. Analysts may have a tendency to impose order onto data even if the activity is random or insufficient data exists to determine causation. The negative effect of this bias occurs in complicated situations or relationships where a pattern may not exist. If a cause is speculated, it may very well be false. Analysts have a tendency to interpret causation as the intentional result of a centralization tendency. The downside of this bias is analysts may not see small

effects or unintended consequences leading to large effects, and, therefore, overestimate the extent logic and reason play in a situation. This bias is somewhat characteristic of Chaos Theory.¹⁹ Analysts tend to link cause and effect to similar relationships (such as a big event must have a big result or cause). The negative impact of this bias is while an explanation sounds more logical it may have no bearing to historical precedence. Analysts tend to overestimate the role of internal factors of behavior and underestimate the role of external factors (in other words, not enough emphasis is placed on external circumstances surrounding an individual or organization). The downside of this bias is predictions about future behavior of an individual or organizations are limited. Analysts tend to place too much importance on the effect of their own importance (for example, overestimating the impact of U.S. policy) than the role internal processes and conflicts play within other individuals and organizations. The negative side of this bias is analysts miss or incorrectly attribute important indicators driving behavior patterns. Finally, analysts tend to conclude because they can correlate two events occurring at the same time period, one causes the other. The downside of this bias is analysts may miss the fact correlated events may not be casually related; the events may have a common cause or may have their own separate causes which go unnoticed.

Last, Heuer identifies biases in making probability estimates. Analysts tend to qualitatively judge how probable an event is by recalling similar instances from memory. The negative impact of this bias is twofold: analysts who let their memory be the judge for statements of probability may miss the most likely probability of an event, and analysts must be cognizant consumers of intelligence (policy-makers and decision-makers) may fall victim to the same bias. Analysts tend to be overconfident in their confidence ranges. They premise their estimate on previous judgments intuitively or unconsciously set. The downside of this

bias is probabilities may be somewhat arbitrary, especially in situations with incomplete information. Analysts tend to express their probabilities of certainty using words like possible, probable, may or could. A more rigorous approach is to use quantitative statements like a 70 percent probability, assuming quantification is possible. The negative impact of this bias is verbal estimates can lead to ambiguous interpretations leading to inaction or the wrong action by policy-makers. Finally, analysts tend to place more significance with specific data about an individual situation than historical aggregate data. The downside of this bias is analysts may not learn from historical data, while it may appear to have no causal connection, it actually may be relevant.

Heuer, Clarkson and Schwartz, a leading futurist, suggest how to compensate for biases. Schwartz's idea is to generate multiple scenarios for the future to "order" analysts' perceptions of the present.²⁰ By doing so, the analyst is less likely to fall into the trap of only paying attention to what they think they need to know.²¹ Scenario building then becomes a self-reinforcing learning tool. It allows the analyst to be more aware of biases and, more importantly, to adapt to how new information is processed by the analyst. The major challenges to building scenarios lie with the analysts' capability to be intuitive and imaginative, qualities more innate than trainable.²²

Heuer proposes the use of competing hypotheses to help evaluate alternative explanations and minimize some of the analysts cognitive biases.²³ Heuer's idea is based on the need to overcome the analyst's tendency to select a single answer they intuitively feel is the best.²⁴ Instead of picking one explanation, analysts pick all possible explanations within some reasonable parameters. The analyst competes them against each other instead of evaluating them on their individual merits. One important characteristic of Heuer's strategy is

to seek evidence to refute hypotheses, somewhat counter to most analysts' tendency to seek data to support hypotheses. Heuer, like Schwartz, sees his approach as a self-reinforcing learning tool by bringing out the full uncertainty in any situation.²⁵

Clarkson envisions the day when intelligent computers can capture and organize data in ways the human mind cannot. By so doing, computers would compensate for biases that make it difficult to maintain the context of the situation, to accurately interpret data, and to improve the analysts' ability to imagine.²⁶ Clearly, the day has not arrived although research into agent-based computer modeling may be promising in this regard.²⁷ Clarkson does, however, point out a very important consideration – motive. Clarkson believes the intelligence analyst must be driven by the motive of adventure, which the analyst seeks out novel situations and relationships.²⁸

Heuer, Schwartz and Clarkson provide valuable insights into the limitations of mental processes. The identification of these limitations also can form the basis – through research – for the set of capabilities agencies would want their future analyst's to possess. What is important is such mental capabilities are largely inherent within the individual. They are not as much subject to development through training and education. These mental capabilities that overcome biases can be screened. Schmidt and Hunter, who reviewed 85 years of personnel research involving thousands of studies and millions of employees, concluded the most valid predictor for entry-level employees was cognitive ability tests.²⁹ However, future research is needed to explicitly translate intelligence analysis bias-overcoming capabilities identified by Heuer, Schultz, Clarkson and NSA into a screening program.

The recruitment process would then factor these capabilities into the hiring process. The current screening process for entry-level analysts lies largely with reviewing resumes,

and telephone or in-person interviews stating what one has done. At the Defense Intelligence Agency (DIA), the main entry-level recruitment processes for analysts is called the “candidate pool” and the primary analytical screening basis involves a cover letter with resume and a college degree may not be required.³⁰ The Central Intelligence Agency (CIA) is essentially the same for intelligence analysts although the security screening process is different.³¹ The National Security Agency is about the same at CIA.³² However, there are many examples of professions within and outside of government with a systematic screening process.

Types of Systematic Screening Processes

There are two basic types of systematic testing used in pre-employment screening. In the first type, a systematic screening test is used to judge success for follow-on formal graduate education for the medical, legal and business professions, for example. In the second type, candidates for employment must take systematic screening exams for over 100 career fields in the federal civil service, for example, but there is no follow-on formal education as part of the professional screening.³³ Intelligence analysts take neither a screening exam nor must complete formal graduate education prior to employment. However, there are examples of professions using mental powers similar to the analyst who do require screening tests: the legal profession and the Department of State’s Foreign Service program.

Comparing the entrance requirements for the legal profession and the Foreign Service officer to the all-source analyst is not entirely coherent. There are differences in the career entrance requirement, in the case of law, and in the content of the profession and different use of mental skills as in the case of Foreign Service. However, their screening exams do provide examples of how professions with somewhat comparable intellectual requirements use exams

although they are used differently. The law exam mostly tests mental abilities whereas the Foreign Service exam is focused more on interpersonal relations and judgment.

The Law School Admissions Test (LSAT) is mainly designed to see if the candidate is suitable for law school.³⁴ In fact, the LSAT does not test for knowledge of information, which is very different than the medical college admission test. The LSAT is composed of four sections: logical reasoning, logic games, reading comprehension and writing sample. The logical reasoning section, comprising 50 percent of the exam, is designed to identify the candidate's ability to understand, analyze, evaluate and manipulate arguments and draw reliable conclusions – many of the same types of skills used by the intelligence analyst.³⁵ The logic games section tests the candidate's command of detail, formal deductive abilities, how rules limit and order behavior, and coping with many pieces of data simultaneously to solve a problem – many of these abilities are used by the intelligence analyst.³⁶ The reading comprehension section is used to determine if the candidate can read through a lot of complicated reading material – skills used by intelligence analysts.³⁷ Finally, the writing sample asks the candidate to argue for a position while breaking down the argument of the opponent – somewhat similar skills the intelligence analyst must face.³⁸

The Foreign Service exam is two-fold: a written and oral exam. The candidate must first pass an eight hour written exam. It is made up of three sections, although just the first and second sections are substantive, Job-Related Knowledge and English Expression, respectively.³⁹ The knowledge section tests what the candidates know about U.S. history, government, foreign policy and foreign political systems. The English section tests the candidate's knowledge of correct grammar, organization, spelling and punctuation as well as an essay section. If the candidate passes the written exam, an oral exam is scheduled.

The Foreign Service oral exam can last eight to ten hours. The assessment measures the following skills and abilities: written communication, oral communication, information integration and analysis, planning and organizing, judgment, resourcefulness, initiative and leadership, experience and motivation, working with others, composure, quantitative analysis, objectivity and integrity, and cultural adaptability.⁴⁰ The oral assessment includes a group exercise, a structured interview and a management exercise. The group exercise consists of three to six candidates who pretend to be an Embassy staff charged with making decisions about funding competing projects. The interview focuses on the candidate's judgment and ability to think on their feet. The management exercise tests the candidate's management skills, interpersonal skills and quantitative ability.

There is no intent to suggest the LSAT or Foreign Service screening processes be used in part or in whole for a screening program for the intelligence analyst. They do have content and purpose aspects, which could be used as a starting point from which to model a screening program in the future. The content of an analyst screening exam might look more like the LSAT but populated with questions based on researching abilities discussed above to compensate for mental biases. The purpose of the Foreign Service exam is more comparable to the needs of an analyst screening program. There is no educational follow-on step required in the Foreign Service screening process like there is for the legal, medical and business professions, which suggests the relevance of the Foreign Service case to analysts. However, a major difference is the capabilities needed for analysis are more enduring than the Foreign Service, as the following case study suggests.

Evolution of the Foreign Service Examination: A Case Study

From the signing of the Constitution in 1789 to 1856, appointments to the Diplomatic Service – representing the U.S. government in overseas Embassies – and the Consular Service – promoting U.S. commerce – were made politically, not on merit.⁴¹ In 1856, there was an attempt to modify the system when Congress required candidates of the Consular Service to pass an examination, however, the legislation was appealed in the next congressional session.⁴² President Grover Cleveland signed an Executive Order in 1895 requiring candidates to mid-level positions in the Consular Service to pass a written exam on consular regulations and an oral exam demonstrating proficiency in a foreign language.⁴³ President Roosevelt then signed Executive Orders in 1905 and 1906 to require lower-level grades in the Consular Service and for secretaries in the Diplomatic Service to take an examination.⁴⁴ The Rogers Act of 1924 merged the Consular and Diplomatic Services into the Foreign Service so all candidates into the Foreign Service would take the written and oral examination. The Act created a Board of Examiners to be responsible for developing the rules and administration of the written and oral examination.⁴⁵

Changes to the examination process first appeared during World War II. Because there were not enough Foreign Service officers at the beginning of World War II, a kind of reserve Foreign Service capability, called the Auxiliary, was created. Its candidates did not take the written and oral exams given during the normal admissions process.⁴⁶ After the war, the Foreign Service Organic Act of 1946 required Presidential appointees to the Foreign Service to take written and oral examinations.⁴⁷

Post-World War II reform within the State Department included the need for entrance examination changes to reflect new tasks performed by Foreign Service officers. By 1970,

one major government study cited the lack of creativity in its Foreign Service officers.⁴⁸ The study defined creativity as “the ability to formulate new combinations from two or more conceptions already in mind.”⁴⁹ The study considered creativity as an inborn quality, not one taught. Their recommendation was to update the written exam with questions to test creativity and give more weight to those questions.⁵⁰ The agency contracted to produce the exams, the Educational Testing Service, said it would be possible to construct exam questions to test creativity, but the technique had not been fully validated in 1970.⁵¹

The study was not able to determine if creative individuals were more apt to take the Foreign Service examinations, but they were able to determine there was no systematic process to attract creative people into taking the examinations.⁵² Their recommendation was to establish a network of people with foreign service experience throughout government, academia and business who could help identify creative candidates to take the examinations.⁵³

The study found the oral exam – no longer a foreign language proficiency test – the most important factor in the admissions process.⁵⁴ However, two major challenges were cited: the volume of oral assessments overwhelmed the number of examiners; and the examiners did not reflect the variety of experience and interests within the Foreign Service. The study recommended not every candidate who passed the written test should be invited to take the oral exam, and oral exam panels should be staffed with greater diversity within the profession, to include minorities and women.⁵⁵

The study also cited a major limitation of the written exam corrected just prior to 1970; the exam had been primarily focused on academic knowledge – no longer on regulations – but did not test a candidate’s aptitude for a career in the Foreign Service.⁵⁶ By

1970, the admissions process began relying more on the oral exam, which placed more emphasis on aptitude.⁵⁷

The Foreign Service Organic Act of 1980 was passed to institutionalize a merit-based Foreign Service.⁵⁸ As a result, the Act updated the entrance examination and made them more rigorous. In 1946, only about seven percent of the candidates passed both written and oral exams; by 2002, the proportion had dropped to about two percent suggesting the examination process had indeed been made more rigorous.⁵⁹

High-level government commissions reviewing the Foreign Service in 1989 reported the examination process was problematic in two areas: not enough women and minorities entered the service; and it took successful candidates too long to receive an offer of employment.⁶⁰ The commissions recommended the then standard 24-27 month waiting period from the time the candidate took the written exam to an offer of employment be reduced to six months, and less emphasis be placed on the written and oral examinations.⁶¹

By 2002, through a combination of the after-effects of the 11 September 2001 terrorist attacks and the leadership qualities of Secretary of State Powell, the number of applicants to take the Foreign Service written exam in fiscal year 2002 doubled to 23,000 from the amount in fiscal year 2001, and the proportion of minorities who successfully passed the written exam increased to 17 percent, the highest ever percent in the history of the written exam.⁶² Additionally, the time lag between taking the written exam and receiving an offer of employment had been reduced from 27 months to less than 12 months.⁶³

This case study was intended to be representative of some of the major issues faced by the Foreign Service screening process. Some of these would be of interest to the development of a screening program for intelligence analysts. These include but are not limited to the need

for distinguishing between enduring and situational capabilities, the need for and challenge of testing for creativity, the role and value of written and oral assessments, the need for diversity, and the length of the recruitment time.

If a screening program were developed for intelligence analysts, then introducing a new structure into the recruitment process would have to be well thought out and there would need to be some guidelines for measuring its success. Organizational theory provides a sound theoretical basis for implementing a systematic screening program. Jones separates two types of organizational changes: evolutionary and revolutionary.⁶⁴ Evolutionary change is gradual and incremental while revolutionary change is sudden and drastic.⁶⁵ Introducing a new screening program into the intelligence community has to be evolutionary because there is no baseline to compare or measure the effect of envisioned changes.

Wallace identifies an additional characteristic for introducing change into an organization: having a plan.⁶⁶ The plan can range from structured to unstructured. The reason for a structured change is to support a solution requiring implementation planning and the opportunity to modify the change when issues come up.⁶⁷ An unstructured change is best when the solution is not clear. For the screening program, a structured approach would be best because an evolutionary strategy needs an implementation plan.

Senge et al suggest introducing change through a small “incubation” effort because the most effective type of change is one where employees learn to change.⁶⁸ Additionally, Senge states change requires a “self-perpetuating” process to maintain the incentive for learning.⁶⁹ Authority-driven, top-down change is not as effective according to Senge.

An Intelligence Analyst Screening Program: Implementation Plan

Given these conceptual frameworks, a three-phase implementation plan spanning three years or more is recommended. The first phase, composed of three elements, would last one year. The purpose would be to test the concept using current employees in experimental and control groups. The screening process would be used in at least two agencies, such as the CIA and the DIA. In the first element, current analysts would be screened to create a duplicate analytical effort, such as an aspect of counterterrorism or counterproliferation. The experimental group would be composed of the employees who “pass” the screening process and the control group would be composed of an existing organization. There would be a combination of an experimental and control group in CIA and DIA, each focused on the same analytical area.

The second element of the first phase is the selection of a supervisory analyst for each experimental group. Davenport, Prusak and Wilson discuss the need for an “ideas practitioner” to optimize the contributions of creative employees.⁷⁰ While their concept is focused on the business community, the applicability of the “ideas practitioner” to other kinds of organizations is a reasonable assumption. They lay out the kind of traits and managerial skills needed to foster innovation. The desired traits are optimism, a passion for ideas for their own sake, and the ability to use a personal network beyond the chain-of-command to get help when needed.⁷¹ The skills are what distinguish the analyst from supervisor: the desire to look beyond the unit for new approaches to solving problems; the ability to connect new ideas to the organization’s mission and customer; the ability to sell ideas to senior managers as well as the rank and file; and then to implement a project.⁷² Selection of this individual

could be based on using the same screening program as the analysts in addition to personal recommendations from senior management.

The third element of the first phase is the selection of a senior leader who is also an idea-oriented individual, such as the director of the CIA or DIA.⁷³ This leader would be an advocate for the experimental group and its supervisor and would participate in the review of the experimental group's progress and support decisions about the group's recommendations. The intent is not for the senior leader to be biased towards the experimental group; equal weight is given to both the results of experimental and control groups.

The second phase, lasting one year, would build upon the results of the first phase: the use of the screening program would be applied on a very limited basis as a pre-employment screening tool for the first time to increase the size of the experimental groups in DIA and CIA; and the proof-of-concept testing used in phase one on current employees at DIA and CIA would be replicated in additional organizations like the Office of Naval Intelligence (ONI) and the National Security Agency (NSA) in their counterterrorism or counterproliferation units. The existing employees at ONI and NSA screened would include both civilian and, for the first time, military. The control groups in DIA and CIA would add the same number of staff from the current employee pool so they reach parity with the experimental groups.

The third phase, lasting one year, would build upon the results of the first and second phase: the use of the screening program at DIA and CIA would be expanded to a broader pre-employment analyst candidate pool to staff additional challenging analytical efforts; ONI and NSA would progress to phase two while using the screening program on both new civilians and new military analysts; and the proof-of-concept testing of phase one would be replicated

into other parts of the Intelligence Community such as the Federal Bureau of Investigation (FBI) and the Department of Homeland Security's (DHS) Intelligence Analysis Center (IAC). The IAC became part of the Intelligence Community with the passage of the Homeland Security Act of 2002.⁷⁴

Strategy for Measuring the Effectiveness of the Implementation Plan

The framework for measuring effectiveness lies with the choice of a quantitative or qualitative method. Quantitative methods rely on scientifically collected data and analysis. It is not clear such a technique is applicable for comparing the activities and outputs between the experimental and control groups. A qualitative approach, while not the most desirable, is the most practical and achievable.

Gibbs discusses two types of qualitative methods for consideration: the use of focus groups and the use of observers.⁷⁵ The focus group would consist of six to twelve people and include analysts, managers, and customers from the analytical, human resources and leadership organizations. The focus group would meet monthly during each phase to discuss their opinions about the activities of the experimental and control groups. One observer would be embedded into each experimental and control group for the duration of each phase and would record activities as they happen. Their report would be provided to management on a recurring basis.

The CIA's Sherman Kent School for Intelligence Analysis has suggested goals that could be objectives for the measurement of the experimental groups. These may be appropriate objectives for the focus groups and observers to use as measures for discussion and observation, respectively. These analytical attributes include: innovation, synthesis, learning, questioning, pattern recognition, adaptation to uncertainty, visual thinking,

experimentation, metaphors, nonlinear systemic thinking, focus on what is unknown or unknowable, asking “What IF?,” and building and working with multiple frameworks.⁷⁶ Determining how these objectives would be recorded for measurement and comparison purposes requires additional research.

Throughout the phases, the focus groups and observers should also discuss and record the effectiveness of communication and collaboration within the experimental groups of the various agencies and separately within the control groups. According to the Kent School, knowledge sharing will be one of the most critical traits needed to solve complicated transnational issues.⁷⁷

The evaluation process can also be used to address the issues of proportionality and density. How much of an organization should be populated by systematically screened employees? For example, not all State employees take the Foreign Service exam. Not all functions in an intelligence analysis organization need the qualities stated throughout the paper. Can fewer screened employees outperform larger numbers of non-screened employees? The arguments presented throughout this paper suggest greater efficiency can be achieved with fewer employees.

Finally, measuring the effectiveness of the systematic screening program will have to include observations of how agencies compensate for cultural biases and power relationships naturally occurring when introducing organizational change.

Conclusion

This paper is based on the premise we can identify the right capabilities for optimizing analytical work and that we should bring our best people with these capabilities together to form a more capable Intelligence Community. Recommending a systematic pre-employment

screening program for intelligence analysts to solve this shortfall is admittedly a bold move. However, aspects of this recommendation are not unprecedented.⁷⁸ CIA and NSA have already made some progress in defining requirements. Harvard has at least one experimental research program useful in this regard.⁷⁹ However, we need to institutionalize this new paradigm if we are serious about overcoming the cognitive and conceptual challenges in analyzing transnational threats.

Clearly not all aspects of a recommendation were solved in this paper. Some were addressed but need future research: the nature of enduring and situational mental capabilities; the proportion of employees subject to a systematic screening program; the content and form of a screening program; the measurement objectives for an implementation plan; the cultural resistance to introducing a screening program; and validity of extrapolating the “ideas practitioner” from a business model to a non-profit, service model. There was no attempt to address the financial costs of developing such a programmatic effort prior to or during implementation.

It will take a few years to develop an operational screening program. Combined with the three or more years needed for implementation testing and evaluation, we will likely not see this corporate approach operational until 2010. However, if we do not start the transformation process soon, then we will be even further behind in adapting to the post-Cold War system. It is a system characterized by the increase in the speed of communication, technological and normative changes and the complexity of emergent, nonlinear, boundaryless character of human and social interactions.

End Notes

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